CLAIMS

What is claimed is:

1. A virtual environment system, comprising:

an acoustic localizer adapted to determine the location of sound sources in a local environment;

a user data I/O device;

a remote data I/O device in a remote world;

a system controller in data communication with said acoustic localizer, user data I/O device, and remote data I/O device;

wherein control of said remote data I/O device within said remote world are commanded by said system controller in response to movements of a user as detected by said acoustic localizer; and

wherein data acquired from said remote world by said remote data I/O device is transmitted to said user.

2. The system of claim 1 wherein said acoustic localizer comprises a plurality of microphones arrayed in three dimensions.

3. The system of claim 1 wherein at least a portion of said data acquired from said remote world is transmitted to said user through said user data I/O device.

4. The system of claim 1 wherein said user data I/O device comprises a video display and sound input and output systems.

5. The system of claim 4 wherein said user data I/O device is selected from:

a personal digital assistant; and

a tablet computer.

6. The system of claim 4 wherein said video display is augmented with data received from said system controller.

7. The system of claim 1 wherein said system controller is in wireless communication with said user data I/O device.

8. The system of claim 1 wherein said remote data I/O device comprises a robotic camera.

9. The system of claim 8 wherein said robotic camera comprises a remote-controlled camera mounted on a robotic platform.

10. The system of claim 1 wherein said system controller is in wireless communication with said remote data I/O device.

11. The system of claim 1 wherein the orientation of said user is determined by the location of said user in relation to the location of said user data I/O device as detected by said acoustic localizer.

12. The system of claim 1 wherein one or more operations of said remote I/O device within said remote world are commanded by said user through voice commands.

13. The system of claim 1 wherein said system controller comprises:

an audio signal processing module adapted to control, and process information received from, said acoustic localizer;

a speech recognition module adapted to translate voice commands from said user into data commands;

a user data I/O device socket server adapted to receive data from said user data I/O device and passing them to other system devices;

a media services control server adapted to receive said user commands from said user data I/O device socket server and adapted to manage the flow of data to said data user I/O device from said remote data I/O device;

a remote data I/O device control module adapted to receive commands from said speech recognition module and from said media services control server and process said commands to control said remote data I/O device; and

a media encoder/streamer adapted to stream data to said data user I/O device from said remote data I/O device under the control of said media services control server.

14. A virtual environment system, comprising:

acoustic localizing means for determining the location of sound sources in a local environment;

user data I/O means for receiving data from and/or transmitting data to a user;

remote data I/O means, disposed in a remote world, for receiving data from and/or transmitting data to said remote world;

system controller means for controlling data flow among, and in data communication with, said acoustic localizing means, user data I/O means, and remote data I/O means;

wherein control of said remote data I/O device within said remote world is commanded by said system controller in response to movements of a user as detected by said acoustic localizer; and

wherein data acquired from said remote world by said remote data I/O device is transmitted to said user through said user data I/O device.

15. A method of remotely experiencing a remote world from a local environment, comprising:

providing a remote data I/O device in the remote world;

providing an acoustic localizer in the local environment, said acoustic localizer adapted to detect the position of sound sources;

providing a user data I/O device in the local environment;

providing a system controller in data communication with said remote data I/O device, acoustic localizer, and user data I/O device;

wherein said system controller is adapted to control said remote data I/O device in response to data received from said local environment.

16. The method of claim 15 wherein said remote data I/O device in said remote world is controlled by at least one of:

the detected position of a user in said local environment;

voice commands from said user; and

the orientation of said user.

17 ~~16~~. The method of claim 15 wherein the spatial positioning of said remote data I/O device in said remote world is controlled by the detected position of said user in said local environment.

18 ~~17~~. The method of claim 15 wherein data acquired from said remote world is transmitted to said user.

19 ~~18~~. The method of claim 17 wherein at least a portion of said data acquired from said remote world is transmitted to said user through said user data I/O device.